IN THE CLAIMS:

1-6. (CANCELLED)

7. (PREVIOUSLY PRESENTED) A system for integrating traffic shaping and link sharing functions to enable scaling of a plurality of queues multiplexed to media links of an intermediate station in a computer network, the queues storing data packets that are destined for the media links, the system comprising:

queuing logic configured to organize the queues into class queues of a plurality of queue sets, each queue set coupled to inputs of a sublink multiplexer having an output coupled to a media link via a media link queue;

a queue scheduler configured to assign each class queue committed information bit rate (CIR) and excess information bit rate (EIR) bandwidths, and the media link a shaped maximum bit rate; and

the queue scheduler further including a timing wheel organized as a descriptor ring with time slots, wherein each time slot includes a queue-depth index that references a tail of a list of queue descriptors associated with that time slot, each queue descriptor of the list of queue descriptors to indicate that a particular class queue is eligible for servicing.

8. (ORIGINAL) The system of Claim 7 wherein the queue scheduler comprises a EIR scaler that uniformly scales the EIR bandwidths of all queues sharing a media link so that the sum of all scaled EIR bandwidths equals an available bandwidth of the shaped media link.

9. (ORIGINAL) The system of Claim 8 wherein the queue scheduler further comprises a virtual time policer (VTP) configured to determine whether the media links are compliant and to calculate when a queue is next eligible for servicing.

10-11. (CANCELLED)

12. (PREVIOUSLY PRESENTED) The system of Claim 7 wherein the queue descriptors include a queue index that references a class queue of the queuing logic.

13. (PREVIOUSLY PRESENTED) The system of Claim 7 wherein the queue descriptors include a media link interface that references a media link coupled to the intermediate station.

14. (PREVIOUSLY PRESENTED) The system of Claim 7 wherein the queue descriptors include a priority value indicating a priority level assigned to a queue.

15-23. (CANCELLED)

24. (PREVIOUSLY PRESENTED) A system for integrating traffic shaping and link sharing in a network device, the system comprising:

queuing logic configured organize a plurality of class queues into a plurality of queue sets, each class queue associated with a particular type of data and, each queue set coupled to a particular media link of a plurality of media links; and

a queue scheduler configured to assign each class queue a committed information bit rate (CIR) and a excess information bit rate (EIR) bandwidth, the EIR bandwidth scaled so that the sum of all scaled EIR bandwidths of all the class queues of a queue set does not exceed an available bandwidth of the shaped media link coupled to the queue set,

the queue scheduler further including a timing wheel organized as a descriptor ring with time slots, wherein each time slot includes a queue-depth index that references a tail of a list of queue descriptors associated with that time slot, each queue descriptor of the list of queue descriptors to indicate that a particular class queue is eligible for servicing.

25. (PREVIOUSLY PRESENTED) The system of Claim 24 wherein each queue descriptor comprises a queue index that specifies the class queue eligible for servicing.

26. (PREVIOUSLY PRESENTED) The system of Claim 24 wherein each queue descriptor comprises a media link interface that specifies the media link coupled to queue set that includes the class queue eligible for servicing.

27. (PREVIOUSLY PRESENTED) The system of Claim 24 wherein each queue descriptor comprises a priority value that specifies a priority level assigned to the class queue eligible for servicing.

28. (PREVIOUSLY PRESENTED) The system of Claim 24 further comprising:

a virtual time policer (VTP) configured to determine whether utilization of buffers associated with the media links exceed configurable limits and to calculate when each class queue is next eligible for servicing.

29. (PREVIOUSLY PRESENTED) A method for integrating traffic shaping and link sharing in a network device, the method comprising:

organizing a plurality of class queues into a plurality of queue sets, each class queue associated with a particular type of data and, each queue set coupled to a particular media link of a plurality of media links;

assigning each class queue a committed information bit rate (CIR) and a excess information bit rate (EIR) bandwidth;

scaling each EIR bandwidth so that the sum of all scaled EIR bandwidths of all the class queues of a queue set does not exceed an available bandwidth of the shaped media link coupled to the queue set; and

indicating when class queues are eligible for servicing with a timing wheel organized as a descriptor ring with time slots, each time slot including a queue-depth index that references a tail of a list of queue descriptors associated with that time slot, each queue descriptor of the list of queue descriptors indicating that a particular class queue is eligible for servicing.

30. (PREVIOUSLY PRESENTED) The method of Claim 29 wherein each queue descriptor indicates the class queue eligible for servicing.

31. (PREVIOUSLY PRESENTED) The method of Claim 29 wherein each queue descriptor indicates the media link coupled to queue set that includes the class queue eligible for servicing.

32. (PREVIOUSLY PRESENTED) The method of Claim 29 wherein each queue descriptor indicates a priority level assigned to the class queue eligible for servicing.

33. (PREVIOUSLY PRESENTED) The method of Claim 29 further comprising:

determining whether utilization of buffers associated with the media links exceed configurable limits; and

calculating when class queues are next eligible for servicing.

34. (PREVIOUSLY PRESENTED) A system for integrating traffic shaping and link sharing in a network device, the system comprising:

means for organizing a plurality of class queues into a plurality of queue sets, each class queue associated with a particular type of data and, each queue set coupled to a particular media link of a plurality of media links;

means for assigning each class queue a committed information bit rate (CIR) and a excess information bit rate (EIR) bandwidth;

means for scaling each EIR bandwidth so that the sum of all scaled EIR bandwidths of all the class queues of a queue set does not exceed an available bandwidth of the shaped media link coupled to the queue set; and

means for indicating when class queues are eligible for servicing with a timing wheel organized as a descriptor ring with time slots, each time slot including a queue-depth index that references a tail of a list of queue descriptors associated with that time slot, each queue descriptor of the list of queue descriptors indicating that a particular class queue is eligible for servicing.